AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Previously presented) An audio user-interfacing method in which each of a plurality of items is represented in an audio field by plural synthesized sound sources from where sounds related to the item appear to emanate, the method comprising the steps of:

(a) determining, for each said sound source, an associated rendering position at which the sound source is to be synthesized to emit sounds in the audio field, the rendering positions associated with the sound sources being on at least a portion of cylindrical locus of points; and

(b) generating, using plural audio output devices, an audio field in which said sound sources are synthesized at their associated rendering positions to provide sounds related to the items concerned, the audio output devices being actually or notionally located inside the cylindrical locus of points.

2. (Previously presented) A method according to claim 1, including the further step of displacing the audio field in a direction parallel to the longitudinal axis of said cylindrical locus of points whereby to change the portion of the field closest to a

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reference position where a user of the audio output devices is actually or notionally located.

3. (Previously presented) A method according to claim 2, including the further step of rotating the audio field about the longitudinal axis of said at cylindrical locus of points.

4. (Original) A method according to claim 2, in which the audio field is displaced in said direction in discrete steps of predetermined magnitude.

5. (Previously presented) A method according to claim 4, wherein the longitudinal axis of said at least cylindrical locus of points is vertically disposed, the sound sources being located at differing levels corresponding to floors of a building, the predetermined magnitude of said discrete steps corresponding to moving up or down one floor.

6. (Previously presented) A method according to claim 4, wherein the sound sources are arranged in groups with the sound sources in each group being at the same position along axis and the groups being separated one from another along said axis by distances corresponding to multiples, including one, of said predetermined magnitude.

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7. (Previously presented) A method according to claim 2, wherein sound sources located in the audio field outside of a focus zone fixed relative to said reference position, are at least partially muted relative to sound sources inside the focus zone; the sound sources being un-muted and muted as the sound sources move into and out of the focus zone in response to displacement of the audio field in said direction parallel to the axis of the cylindrical locus of points.

8. (Previously presented) A method according to claim 7, wherein sound sources adjacent to, but outside of , the focus zone are partially muted whilst those farther from the focus zone are fully muted.

9. (Previously presented) A method according to claim 7, wherein sound sources outside of the focus zone are fully muted, an audio indication of the sound sources existing beyond the focus zone in at least one direction being un-muted in the audio field.

10. (Previously presented) A method according to claim 1, wherein the audio field is stabilised relative to one of:

- a user's head;
- a user's body;
- a vehicle in which the user is travelling;
- the world;

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this stabilisation taking account of whether the audio output devices are world, vehicle, body or head mounted, and, as appropriate, rotation of the user's head or body, or of the vehicle, about an axis parallel to the longitudinal axis of the cylindrical locus of points.

11. (Previously presented) A method according to claim 1, wherein further sound sources are synthesized to lie at different radial distances from the longitudinal axis of said cylindrical locus of points.

12. (Previously presented) A method according to claim 1, wherein the longitudinal axis of said cylindrical locus of points is vertically disposed.

13. (Previously presented) A method according to claim 1, wherein the longitudinal axis of said cylindrical locus of points is horizontally disposed.

14. (Previously presented) A method according to claim 1, wherein at least some of the said items represented by the sound sources are audio labels for services, the method further including selecting a service by selecting the corresponding audio-label sound source.

15. (Previously presented) An audio user-interfacing method in which each of a plurality of items is represented in an audio field by plural synthesized sound sources

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from where sounds related to the item appear to emanate, the method comprising the steps of:

(a) determining, for each said sound source, an associated rendering position at which the sound source is to be synthesized to sound in the audio field;

(b) generating, using audio output devices, an audio field in which said sound sources are synthesized at their associated rendering positions to provide sounds related to the items concerned, the audio output devices being actually or notionally located closer to a user of the audio output devices than the positions of the plural synthesized sound sources;

(c) exploring the audio field by rotating it about a predetermined axis; and

(d) exploring the audio field by displacing it in a direction parallel to said axis;

with steps (c) and (d) being effected in any order or together.

16. (Original) A method according to claim 15, in which in step (d) the audio field is displaced in said direction in discrete steps of predetermined magnitude.

17. (Original) A method according to claim 16, wherein said axis is vertically disposed, the sound sources being notionally grouped at differing levels corresponding to floors of a building, the predetermined magnitude of said discrete steps corresponding to moving up or down one floor.

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18. (Original) A method according to claim 17, wherein the sound sources are arranged in groups with the sound sources in each group being at the same position along said axis and the groups being separated one from another along said axis by distances corresponding to multiples, including one, of said predetermined magnitude.

19. (Previously presented) A method according to claim 15, wherein sound sources located in the audio field outside of a focus zone fixed relative to a notional user position, are at least partially muted relative to sound sources inside the focus zone; the sound sources being un-muted and muted as the sound sources move into and out of the focus zone in response to displacement of the audio field in said direction parallel to the longitudinal axis of at least a portion of a cylindrical locus of points.

20. (Original) A method according to claim 19, wherein sound sources adjacent to, but outside of , the focus zone are partially muted whilst those further from the focus zone are fully muted.

21. (Previously presented) A method according to claim 19, wherein sound sources outside of the focus zone are fully muted, an audio indication of the sound sources existing beyond the focus zone in at least one direction along said axis being un-muted in the audio field.

22. (Previously presented) A method according to claim 15, wherein the audio field is stabilised relative to one of:

- a user's head;
- a user's body;
- a vehicle in which the user is travelling;
- the world;

this stabilisation taking account of whether the audio output devices are world, vehicle, body or head mounted, and, as appropriate, rotation of the user's head or body, or of the vehicle, about an axis parallel to the longitudinal axis of at least a portion of a cylindrical locus of points.

23. (Previously presented) A method according to claim 15, wherein the sound sources are distributed over at least a portion of a cylindrical locus of points.

24. (Original) A method according to claim 15, wherein the sound sources are distributed in three dimensions in terms of a cylindrical coordinate system referenced to said axis.

25. (Original) A method according to claim 15, wherein said axis is vertically disposed.

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26. (Original) A method according to claim 15, wherein said axis is horizontally disposed.

27. (Previously presented) A method according to claim 15, wherein at least some of the said items represented by the sound sources are audio labels for services, the method further including selecting a service by selecting the corresponding audio-label sound source.

28. (Previously presented) Apparatus for providing an audio user interface in which each of a plurality of items is represented in an audio field by at least one respective synthesized sound source from where sounds related to the item appear to emanate, the apparatus comprising:

- a processor arrangement for determining, for each said sound source, an associated rendering position at which the sound source is to be synthesized to sound in the audio field, the rendering positions associated with the sound sources being distributed over at least a portion of a cylindrical locus of points; and
- plural audio output devices for generating an audio field in which said sound sources are synthesized at their associated rendering positions to provide sounds related to the items concerned, the audio output devices being actually or notionally located inside the cylindrical locus of points.

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29. (Previously presented) Apparatus according to claim 28, wherein the processor arrangement is arranged for:

(a) setting the location of each said sound source relative to an audio-field reference;

(b) controlling an offset between the audio-field reference and a presentation reference determined by the location of the audio output devices, the processor arrangement including a user input arrangement and being operative to enable a user to set a displacement of the audio field relative to the presentation reference in a direction parallel to the longitudinal axis of said cylindrical locus of points; and

(c) deriving the rendering position of each sound source based on the location of the sound source in the audio field and said offset.

30. (Previously presented) Apparatus according to claim 29, wherein the processor arrangement is further operative to enable a user to set a rotation of the audio field about the longitudinal axis of said cylindrical locus of points.

31. (Previously presented) Apparatus according to claim 29, wherein the processor arrangement is arranged to permit the audio field to be displaced in said direction only in discrete steps of predetermined magnitude.

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32. (Original) Apparatus according to claim 29, further comprising a muting filter operative to at least partially mute sound sources with rendering positions located in the audio field outside of a focus zone fixed relative to said presentation reference.

33. (Original) Apparatus according to claim 32, wherein the muting filter is operative to only partially mute sound sources adjacent to, but outside of, the focus zone but to fully mute sound sources further from the focus zone.

34. (Previously presented) Apparatus according to claim 32, wherein the muting filter is operative to fully mute sound sources outside of the focus zone, the apparatus including an indicator arrangement for providing an un-muted audio indication of the sound sources existing beyond the focus zone in at least one direction along said axis.

35. (Original) Apparatus according to claim 28, wherein at least some of the said items represented by the sound sources are audio labels for services, the apparatus including a selection arrangement for selecting a service by selecting the corresponding audio-label sound source.

36. (Previously presented) Apparatus according to claim 29, wherein the processor arrangement is arranged for varying the said offset such as to stabilise the audio field reference relative to one of:

- a user's head;

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- a user's body;
- a vehicle mounting the apparatus;
- the world.

37. (Previously presented) Apparatus for providing an audio user interface in which each of a plurality of items is represented in an audio field by plural respective synthesized sound sources from where sounds related to the item appear to emanate, the apparatus comprising:

- audio output devices, the audio output devices being actually or notionally located closer to a user of the audio output devices than the positions of the plural synthesized sound sources;
- a processor arrangement for:

(a) determining, for each said sound source, an associated rendering position at which the sound source is to be synthesized to sound in the audio field,

(b) setting the location of each said sound source relative to an audio-field reference;

(c) controlling an offset between the audio-field reference and a presentation reference determined by the location of the audio output devices;

the processor arrangement including a user input arrangement and being operative to enable a user to:

set a rotation of the audio field about a predetermined axis,

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set a displacement of the audio field relative to the presentation reference in a direction parallel to said axis; and

the processor arrangement being arranged for deriving the rendering position of each sound source based on the location of the sound source in the audio field and said offset;

- the audio output devices and the processor arrangement being arranged for generating an audio field in which said sound sources are synthesized at their associated rendering positions to provide sounds related to the items concerned.

38. (Previously presented) Apparatus according to claim 37, wherein the processor arrangement is such that the offset is arranged to permit the audio field to be displaced in said direction only in discrete steps of predetermined magnitude.

39. (Original) Apparatus according to claim 37, further comprising a muting filter operative to at least partially mute sound sources with rendering positions located in the audio field outside of a focus zone fixed relative to said presentation reference.

40. (Previously presented) Apparatus according to claim 39, wherein the muting filter is operative to only partially mute sound sources adjacent to, but outside of, the focus zone but to fully mute sound sources farther from the focus zone.

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41. (Previously presented) Apparatus according to claim 39, wherein the muting filter is operative to fully mute sound sources outside of the focus zone, the apparatus including an indicator arrangement for providing an un-muted audio indication of the sound sources existing beyond the focus zone in at least one direction along said axis.

42. (Previously presented) Apparatus according to claim 37, wherein the processor arrangement is arranged so that the rendering-position determination is so as to cause said sound sources to be on an at least a portion of a cylindrical locus of points.

43. (Previously presented) Apparatus according to claim 37, wherein the processor arrangement is arranged so that the rendering-position determination is so as to cause the sound sources to be distributed in three dimensions in terms of a cylindrical coordinate system referenced to said axis.

44. (Original) Apparatus according to claim 37, wherein at least some of the said items represented by the sound sources are audio labels for services, the apparatus including a selection arrangement for selecting a service by selecting the corresponding audio-label sound source.

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45. (Previously presented) Apparatus according to claim 37, wherein the processor arrangement is arranged for varying the said offset such as to stabilise the audio field reference relative to one of:

- a user's head;
- a user's body;
- a vehicle mounting the apparatus;
- the world.

46. (Previously presented) Apparatus for providing an audio user interface in which each of a plurality of items is represented in an audio field by plural respective synthesized sound sources from where sounds related to the item appear to emanate, the apparatus comprising:

- a rendering-position determining arrangement operative to determine, for each said sound source, an associated rendering position at which the sound source is to be synthesized to sound in the audio field, the rendering positions associated with the sound sources being on an at least a portion of a cylindrical locus of points; and
- a rendering subsystem, including audio output devices, arranged to generate an audio field in which said sound sources are synthesized at their associated rendering positions to provide sounds related to the items concerned, the audio

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output devices being actually or notionally located inside the cylindrical locus of points.

47. (Previously presented) Apparatus according to claim 46, wherein the rendering-position determining arrangement comprises:

- a setting arrangement for setting the location of each said sound sources relative to an audio-field reference;
- a control arrangement for controlling an offset between the audio-field reference and a presentation reference determined by the location of the audio output devices, the control arrangement including a user input arrangement and being operative to enable a user to set a displacement of the audio field relative to the presentation reference in a direction parallel to the longitudinal axis of the cylindrical locus of points; and
- a deriving arrangement operative to derive the rendering position of each sound source based on the location of the sound source in the audio field and said offset.

48. (Previously presented) Apparatus according to claim 47, wherein the control arrangement is further operative to enable a user to set a rotation of the audio field about the axis of said cylindrical locus of points.

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49. (Original) Apparatus according to claim 47, wherein the control arrangement is arranged to permit the audio field to be displaced in said direction only in discrete steps of predetermined magnitude.

50. (Original) Apparatus according to claim 47, further comprising a muting filter operative to at least partially mute sound sources with rendering positions located in the audio field outside of a focus zone fixed relative to said presentation reference.

51. (Original) Apparatus according to claim 50, wherein the muting filter is operative to only partially mute sound sources adjacent to, but outside of, the focus zone but to fully mute sound sources further from the focus zone.

52. (Previously presented) Apparatus according to claim 50, wherein the muting filter is operative to fully mute sound sources outside of the focus zone, the apparatus including an indicator arrangement for providing an un-muted audio indication of the sound sources existing beyond the focus zone in at least one direction along said axis.

53. (Original) Apparatus according to claim 46, wherein at least some of the said items represented by the sound sources are audio labels for services, the apparatus including a selection arrangement for selecting a service by selecting the corresponding audio-label sound source.

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54. (Previously presented) Apparatus according to claim 47, wherein the control arrangement for controlling the offset is arranged for varying the offset such as to stabilise the audio field reference relative to one of:

- a user's head;
- a user's body;
- a vehicle mounting the apparatus;
- the world.

55. (Previously presented) Apparatus for providing an audio user interface in which each of a plurality of items is represented in an audio field by plural respective synthesized sound sources from where sounds related to the item appear to emanate, the apparatus comprising:

- a rendering-position determining arrangement operative to determine, for each said sound source, an associated rendering position at which the sound source is to be synthesized to sound in the audio field, the rendering-position determining arrangement comprising:
 - a setting arrangement for setting the location of each said sound source relative to an audio-field reference;
 - a control arrangement for controlling an offset between the audio-field reference and a presentation reference determined by the location of

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audio output devices, the control arrangement including a user input device and being operative to enable a user:

- to set a rotation of the audio field about a predetermined axis, and
- to set a displacement of the audio field relative to the presentation reference in a direction parallel to said axis; and
- a deriving arrangement for deriving the rendering position of each sound source based on the location of the sound source in the audio field and said offset; and

- a rendering subsystem, including the audio output devices, operative to generate an audio field in which said sound sources are synthesized at their associated rendering positions to provide sounds related to the items concerned, the audio output devices being actually or notionally located closer to a user of the audio output devices than the positions of the plural synthesized sound sources.

56. (Original) Apparatus according to claim 55, wherein the control arrangement is operative to permit the audio field to be displaced in said direction only in discrete steps of predetermined magnitude.

57. (Original) Apparatus according to claim 55, further comprising a muting filter operative to at least partially mute sound sources with rendering positions located in the audio field outside of a focus zone fixed relative to said presentation reference.

58. (Original) Apparatus according to claim 57, wherein the muting filter is operative to only partially mute sound sources adjacent to, but outside of, the focus zone but to fully mute sound sources further from the focus zone.

59. (Original) Apparatus according to claim 57, wherein the muting filter is operative to fully mute sound sources outside of the focus zone, the apparatus including an arrangement operative to provide an un-muted audio indication of the sound sources existing beyond the focus zone in at least one direction along said axis.

60. (Previously presented) Apparatus according to claim 55, wherein the rendering-position determining arrangement is operative to cause said sound sources to on at least a portion of a cylindrical locus of points.

61. (Original) Apparatus according to claim 55, wherein the rendering-position determining arrangement is operative to cause the sound sources to be distributed in three dimensions in terms of a cylindrical coordinate system referenced to said axis.

62. (Original) Apparatus according to claim 55, wherein at least some of the said items represented by the sound sources are audio labels for services, the apparatus including a selection arrangement for selecting a service by selecting the corresponding audio-label sound source.

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63. (Previously presented) Apparatus according to claim 55, wherein the control arrangement is arranged for varying the said offset such as to stabilise the audio field reference relative to one of:

- a user's head;
- a user's body;
- a vehicle mounting the apparatus;
- the world.

64. (Previously presented) Method according to claim 1, wherein the audio output devices are stereo headphones on the head of a user.

65. (Previously presented) Apparatus according to claim 28, wherein the audio output devices are stereo headphones on the head of a user.

66. (New) The method of claim 15 wherein the rendering position associated with each of the sound sources is on at least a portion of a cylindrical locus of points.

67. (New) The apparatus of claim 37 wherein the rendering position associated with each of the sound sources is on at least a portion of a cylindrical locus of points.

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67. (New) the apparatus of claim 55 wherein the rendering position associated with each of the sound sources is on at least a portion of a cylindrical locus of points.

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